Activities *(Continued)*

Fractions (Fraction Concepts)	**Objectives:** Recognize fractional parts; halves, thirds, fourths. Students are introduced to the concept of fractional parts. They identify parts of a whole and parts of a set, and name the numerators and denominators.

Care of Disks

The micro-software program is recorded on the magnetic coating of the program disk, which is permanently sealed inside a protective cover. Do not touch the surface of the disk that is visible through the oval cutout in the protective cover. When the disk is not in use, it should be returned to its own envelope and stored in a safe place away from dust, magnetic fields, and temperature and humidity extremes. Do not bend, staple, or write on the disk or its protective cover with ball point pen or pencil.

Warranty

Troll Associates provides a lifetime guarantee on Troll micro-software disks. If any program fails to load or run, simply return it to us for a free replacement.

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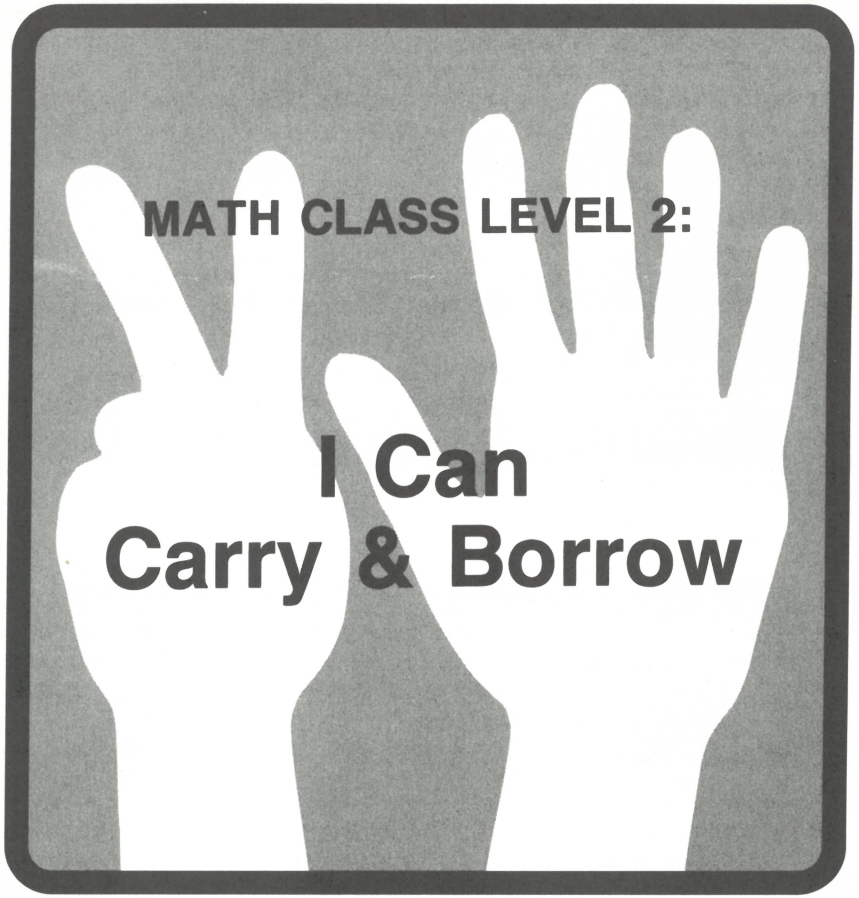
Troll MICRO

COURSEWARE

USER'S GUIDE



Troll Micro-Software

Troll Math Class
Level 2: I Can Carry & Borrow
Micro User's Guide

System Requirements

1. Apple IIGS, IIc, IIe, II+, or II (with Applesoft and at least 48K of RAM).
2. One disk drive.
3. A TV set or video monitor (color is recommended).

How to Use This Program

Troll Math Class is designed to introduce students to basic math skills in a format that is entertaining as well as educational. Each level focuses on a specific concept and includes a variety of activities to teach and reinforce that skill. **Level 2: I Can Carry & Borrow** introduces the concepts of place value and regrouping, as students learn to add and subtract two-digit numbers.

Getting Started

Insert the program disk into the disk drive with the label facing up and the oval cutout facing away from you. Close the door on the disk drive and turn on the monitor and computer. The red light on the disk drive will light up as the program loads.

NOTE: Some Apple computers require that PR#6 be typed before the program begins loading.

When the program has loaded, the Troll logo will appear, followed by the title. Then the main menu appears:

1 Place Value
2 Addition
3 Subtraction
4 Fractions

To choose an area of concentration, the student simply presses the number of that choice. If choice 4 is selected, the Fractions activity will load and run automatically. If choice 1, 2, or 3 is selected, the student must select a specific activity from a second menu:

Place Value Activity Menu	**Addition Activity Menu**	**Subtraction Activity Menu**
1 Candy Conveyor	1 Gum Drop	1 Burger Bandits
2 Bake Skate	2 Cupcake Bake	2 Doughnut Shop
	3 Pinball Dog	3 Pinball Dog

The activity selected will then load and run automatically.

Special Keys

	H	Help
CONTROL	X	Return to Main Menu
CONTROL	O	Turn Sound On or Off

The Activities

Candy Conveyor (Sets of 10)
Objectives: Count by tens; arrange objects in groups of ten.
As individual candies come down a conveyor belt marked ONES, students group them in boxes of ten and place them on a second conveyor marked TENS.

Bake Skate (Place Value)
Objectives: Understand place value; tens and ones.
Students are introduced to place value with boxes of ten cupcakes and individual cupcakes in a bakery. To demonstrate place value, the number of tens and ones move to their correct positions in a two-digit number.

Gum Drop (Review Addition)
Objectives: Review addition facts using numbers one to ten.
As gumballs fall from two gumball machines, students review addition concepts using numbers with sums to ten.

Cupcake Bake (Addition)
Objectives: Add tens and ones without regrouping; add tens and ones with regrouping.
Students begin by adding two numbers with no carry involved. After three correct answers, the concept of carry is introduced and graphically demonstrated.

Pinball Dog (Addition/ Subtraction)
Objectives: Use addition and/or subtraction skills to play a pinball game.
As the ball bounces against various targets numbered from one to nine, the numbers become addition problems, subtraction problems, or mixed addition and subtraction problems (depending on the parameters specified by the user).

Burger Bandits (Review Subtraction)
Objectives: Review subtraction facts using numbers one to ten.
As "burger bandits" take away burgers by eating them, students review subtraction concepts using numbers from one to ten.

Doughnut Shop (Subtraction)
Objectives: Subtract tens and ones without regrouping; subtract tens and ones with regrouping.
The concept of borrowing is introduced using individual doughnuts and boxes containing ten doughnuts each. Students complete various subtraction problems by entering the difference.

(Continued)